

CLAIMS

1. A method of manufacturing an electrically conductive member having an electrically conductive film on a surface of a substrate, comprising the steps of: (i) forming a layer containing a colloid on a porous surface of the substrate having at least the porous surface by applying a colloidal solution and (ii) forming an electrically conductive layer by drying the layer containing the colloid.

2. The method of manufacturing an electrically conductive member according to claim 1, wherein the colloid is a metal colloid.

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3. The method of manufacturing an electrically conductive member according to claim 1, wherein the metal is silver, gold, platinum and palladium.

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4. The method of manufacturing an electrically conductive member according to claim 1, wherein the method includes the step of forming the layer containing the colloid by applying the colloidal solution to the porous surface by a spin-coating method.

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5. The method of manufacturing an electrically

conductive member according to claim 1, wherein the method includes the step of forming the layer containing the colloid on the porous surface in a position-selective manner.

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6. The method of manufacturing an electrically conductive member according to claim 1 or 5, wherein the layer containing the colloid is formed in a position-selective manner by applying the colloidal 10 solution to the porous surface by an inkjet method.

7. The method of manufacturing an electrically conductive member according to any one of claims 1 to 6, wherein vicinity of the porous surface, including 15 the surface, has a pseudobehmite structure.

8. The method of manufacturing an electrically conductive member according to any one of claims 1 to 7, wherein the following condition is satisfied when 20 it is assumed that an average particle diameter of the metal colloid is  $\phi_1$  ave and that an average pore diameter of the porous surface is  $\phi_2$  ave:

$$\phi_1 \text{ ave} \geq \phi_2 \text{ ave.}$$

25 9. An electrically conductive member manufactured by the method according to any of claims 1 to 8.

10. An electrically conductive member having an electrically conductive film on a porous surface of a substrate, the electrically conductive film being a dried film of a wet applied film containing colloidal  
5 particles.

11. The electrically conductive member according to claim 9 or 10, wherein the electrically conductive member has portions in contact with an  
10 organic semiconductor.